

Submission to Senate Standing Committees on Environment and Communications.

**Regarding Environment and Other Legislation Amendment (Removing Nuclear Energy Prohibitions) Bill 2022**

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I am happy to have my submission published.

Australia's prohibition of the nuclear industry has served us well. We are among the majority of nations that are not burdened with the costs, the toxic wastes, the safety and security problems, and the weapons proliferation risks that burden the minority, the 32 countries that do have nuclear power. Australia is lucky in that regard.

But we're unlucky in that Australia is the continent most at risk from global heating. We're experiencing right now the weather extremes that herald rapid climate change. So, the time for Australia to act - is NOW. In 20 or 30 years - it will be too late. But 20 or 30 years is the (optimistic) time frame for getting nuclear reactors operating - whether they be large or small reactors. That is, of course, assuming that nuclear reactors would really be effective in cutting greenhouse emissions, - a questionable assumption, anyway.

The push in Australia is for small nuclear reactors (SMRs) . We must remember that with small nuclear reactors, there needs to be a number of them, to produce anything like the amount of energy that a large nuclear reactor produces. So for Australia the small nuclear reactor plan would mean an absurdly large number of these SMRs to be brought into operation very quickly, across the nation, to have any effect on reducing greenhouse gases.

We also need to remember that these SMRs are still only in the design phase - not operating on any land in the world. Is Australia to be the guinea pig for trying out an expensive experiment?

In the meantime Australia is a leader in adopting renewable energy technologies, both large scale and small. Wind and solar power are here NOW - faster and ever cheaper to install, with constantly improving battery systems for back-up.

My worry is that Australia's resources, human, financial and physical, could be redirected away from critically needed energy conservation and renewable systems, towards an expensive and untested nuclear power system.

This distraction from practical and clean technologies would also bring the problems of long-lasting radioactive waste, and of nuclear facilities as a target for terrorism.

The experience of other countries should provide a salutary lesson for Australians. France - the much touted nuclear power champion, had a very worrying time in recent summers - nuclear reactors cutting back due to heat problems and water shortage. France is still struggling in their winter, and now has to import electricity. If France's nuclear fleet can't cope with summer heat, what hope has Australia got?

All the nuclear countries are struggling with the problem of disposal of nuclear wastes. Finland's much vaunted underground disposal facility, (at enormous cost) will barely have enough space for Finland's own nuclear wastes, let alone anyone else's. Small nuclear reactors do produce a smaller percentage of wastes, but so highly toxic that they form a big problem, too. While most big nuclear reactors world-wide are placed near the coast, vulnerable to sea-level rise, that doesn't make small nuclear reactors safer. The safety plans for small nuclear reactors are quite confusing. For example, there's a strong suggestion that they should be placed underground - a supposedly safer and more secure location. But what if there's a flood?

If Australia maintains its nuclear prohibitions, our direction towards a clean energy future is clear. Removal of these bans would bring not only a plethora of pro-nuclear promotional advertising, but the beginning of a costly experiment in an old technology, nuclear power, whose time is over - the SMR drive is its last gasp. All this at a time when Australia desperately needs to take clean energy actions - to both reduce the rate global warming and adapt to the impacts of climate change.